

ABSTRACT

An apparatus directs gas from an upstream conduit through a vessel wall for cleaning surfaces within the vessel. A mounting flange couples the apparatus to the upstream conduit delivering the gas. The flange has first and second faces, an inboard surface bounding a central aperture, an outboard perimeter, and an array of bolt holes between the first and second faces. A conduit extends downstream from the flange and has inner and outer walls along at least a portion of a length and a space between the inner and outer walls for carrying a cooling fluid. The apparatus has a cooling fluid inlet and a cooling fluid outlet.